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EDITORIAL

Goodbye 2020, hello to our future

This editorial reflects on 2020 and how we may emerge better in 2021 and beyond. I apologize to international readers for the US-centric point of view, which I use to illustrate one perspective.

The year 2020 is an inflection point. It has changed us. The hashtags in the figure resonated with me. Please explore those that you are unfamiliar with on social media, as coverage is impossible in one editorial.

1 | THE TOLL

We will remember 2020 as painful, with 1 609 044 deaths in 191 countries/regions from coronavirus disease 2019 (COVID-19) as of this writing in mid-December.[1] Superimpose escalating racial injustice and inequity in the United States, and a volatile election and postelection period. We have seen illumination of racial and gender inequity in science and medicine, and pandemic-related escalation of the gender gap,[2,3] with important discussions taking place.[4]

People are gone; most of us know someone. In the United States, it is sadly more likely they were a person of color. Are we surprised so many were lost? The 300 000+ deaths from COVID-19 in the United States (now)[1] provide stark illustration of the well-known fact that despite great wealth, and that we spend more than any other country on health care when compared to other high-income nations, for decades we have ranked near the bottom in several metrics of health starting from birth.[5] There are myriad reasons, including sexism, implicit bias, and structural racism. We must come out on the other end of this pandemic with renewed energy to change.

2 | GRATITUDE

I have to break to say this: I cannot sufficiently express my gratitude to and admiration of frontline health care workers, some who cannot stay with their families due to the risk, some who have sacrificed all.

3 | INNOVATION

Scientists have risen to the pandemic's challenge, publishing ~80 000 articles in 2020 as of this writing. We do not know how many will stand the test of time, but the knowledge gained is remarkable. Like many who read this journal, I feel that my research and clinical interests prepared me to study and understand this new infection. It is likely that manipulating the thrombotic system will hasten recovery of patients with COVID-19, beyond thinking about venous thrombosis as a side effect of the disease.[6,7] We will soon have results of randomized controlled trials testing this hypothesis.[8] If something could have been different, faster completion of these trials would have been optimal, similar to trials of hydroxycholoroquine, remdesivir, dexamethasone, and monoclonal antibodies.

How is COVID-19 research different? Scientists around the world were compelled to action. After implementing safety precautions, laboratories applied their tools and experience to new questions. Those doing clinical research worked remotely to stay safe. Scientists are doing research without funding or the prospect of personal recognition or assurance of authorship simply because it has to happen. Some are resorting to GoFundMe pages for support. I had the honor of collaborating with Dr Michelle Sholzberg to design and conduct a clinical trial (NCT04362085), though I am not a clinical trialist. Federal agencies and nonprofit institutions fast-tracked procedures to fund critical research. For example, the National Heart, Lung, and Blood Institute selected researchers to collaborate on antithrombotic trials based on submitted letters of intent and research progress over the first months of the pandemic, forming the Accelerating COVID-19 Therapeutic Interventions and Vaccines (ACTIV)-4 program. As a participating scientist in ACTIV-4, I am in awe of my collaborating multidisciplinary colleagues (who mostly did not know each other previously) as they convened and rapidly developed the trust required to harmonize their trials into a unified adaptive trial platform that will answer key questions. Work done via Zoom in a few short months contrasts with the normal years-long trial development process, and results are on the way.

No field of medicine is untouched by 2020's science. In hematology, rapid understanding of the thromboinflammatory process in COVID-19 will assuredly provide insights to other diseases. As I read manuscripts, attend virtual webinars/conferences, and give talks, I envision future applications to research in venous thrombosis prevention in medical illness, cancer-associated thrombosis, and catastrophic antiphospholipid syndrome, to name a few.

At *Research and Practice in Thrombosis and Haemostasis*, we waived article publication charges and published original COVID-19 research and articles that raise hypotheses relevant to treatment.[9] We studied the authorship gender gap during the first COVID wave[10] and published articles on new ways to disseminate science.[11] Dobson and Wolberg eloquently discussed scientific silver linings of COVID-19 and considered the impact on institutional racism and increasing diversity in science.[4] I call on you to continue to submit science to us; we are also interested in Forum articles on the social impact of COVID-19 and the events of 2020.

4 | WHAT DID WE LEARN IN 2020 THAT WILL STAY POSTPANDEMIC?

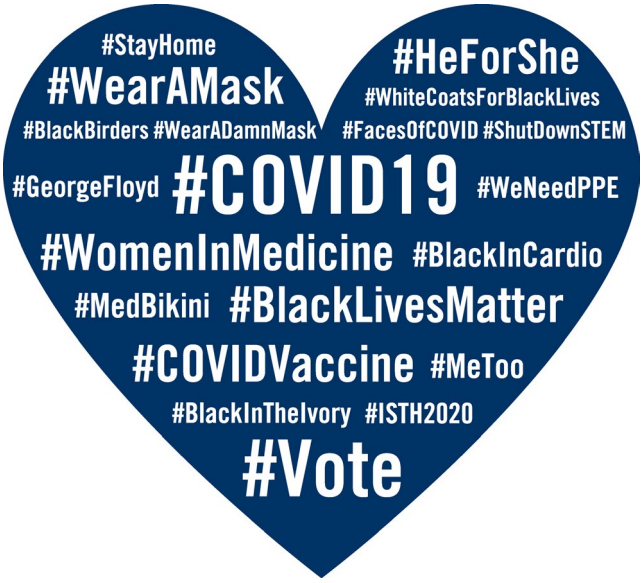
This experience provides many opportunities for an improved future:

- Science can progress faster; will our institutions change?
- We need to slow down sometimes; think personal protective equipment.
- Family is most important.
- Twitter will increase as a venue for science news, networking, and discussion.
- We can reduce our carbon footprint and be okay.
- Knowledge gained through COVID-19 research will BE relevant to other diseases.
- Things that are here to stay:
  a. Zoom/Teams—hard to imagine another phone conference call.
  b. Telemedicine—will insurers embrace?
  c. Virtual conferences—some fully virtual, some hybrid.
  d. Virtual happy hours—no need to wait for conference travel to socialize. I look forward to Friday Huddle!
  e. Communicate with the world from your kitchen.
  f. After over a year of being physically apart and living this pandemic experience, maybe we will all be a little kinder—in charitable work, professional interactions, and even peer review.

5 | CONCLUSION

Let's face it: 2020 has been tumultuous. The year's events have shined the light on many upsetting realities, which has mobilized scientists to action. That action can allow us to create a better future.

What will you do?



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